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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Engineering

MONTHLY NEWS LETTER

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No. 9

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Attention is called to the statement in the caption regarding the confidential character of the News Letter. The sole purpose of this publication is to keep the members of the Bureau informed as to the work in progress, and the outstanding results obtained. In no case should the information be made public until released by the Chief of the Bureau.

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Express shipments are to be made at released rates. The placing of a valuation of more than \$50 on an express shipment is not permitted, unless specifically authorized by the Chief of Bureau. There has been a tendency recently to overlook this requirement, which is covered in Paragraph 3-B, page 23 of the Field Manual.

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The Secretary has amended the administrative regulations by adding the following paragraph:

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726. ACCEPTANCE OF GIFTS. - No employee of the Department shall accept from any outside person, firm, or corporation with whom the employee has or may have official business relations any gift, money, or other thing of value given or loaned with any purpose or intent whatsoever.

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The annual convention of the Texas Cotton Ginner's Association at Dallas, April 3 - 5, was attended by Chas. A. Bennett who presented a paper entitled "Some Engineering Features Involved in the U.S. Cotton Ginning Investigations". At a meeting of the Cooperative Cotton Gin Associations of Oklahoma at Altus, on April 8, Mr. Bennett discussed cotton ginning problems.

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In the April issue of The Cotton Ginner's Journal appeared an article by Mr. Bennett, entitled "Some Patents which have Expired on Cotton Gin Saws and Ribs"; and in the April issue of the Cotton Oil Press an article which was first released in the Southern Agriculturist for May, 1934, entitled "Seed Cotton Driers Prove Worth".

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J.S. Townsend of the Bureau of Plant Industry was at Stoneville in April for the purpose of planning with Mr. Bennett for future cooperative work on roller ginning.

The Soil Erosion Service of the Department of the Interior having been transferred to the Department of Agriculture, the investigational, control, and service work in soil erosion carried on by the Bureau of Agricultural Engineering, the Bureau of Chemistry and Soils, and the Bureau of Plant Industry were transferred to that Service effective April 1. This change involved the erosion experiment stations and the personnel, equipment, funds, and records relating to the erosion-control work including the staff of engineers employed as technical advisors for the CCC camps in cooperation with the Forest Service. The staff transferred from the Division of Drainage includes C. E. Ramser, R. W. Baird, F.O. Bartel, R.R. Drake, W.D. Ellison, C.J. Francis, C.A. Frye, C.L. Hamilton, F.E. Hardisty, A.T. Holman, P.L. Hopkins, H.H. Lester, P.C. McGrew, R.A. Norton, J.D. Parsons, H.S. Riesbol, M.B. Stewart, L.C. Tschudy, Leo Wheeler, D.M. Woods, O.C. Word, M.P. Wynkopp, and V.D. Young. The Chief of Bureau expresses appreciation of the excellent work that these engineers have done, and the good wishes of himself and the rest of the bureau staff for them in their new relations.

On March 17 L.A. Jones gave a talk before the Los Angeles branch of the American Society of Civil Engineers on the water conservation work of the Federal Emergency Relief Administration. After the meeting at Los Angeles he visited the Berkeley office of the Bureau and conferred with the regional engineer of the San Francisco office of the F.E.R.A. Enroute to Washington Mr. Jones inspected water conservation projects in New Mexico and Oklahoma. On April 18 and 19, accompanied by R. W. Carpenter of the University of Maryland, he located possible sites for CCC camps to be engaged in maintenance work in organized drainage enterprises.

For the past two weeks G.R. Boyd and S.P. Lyle have been engaged in locating possible sites for CCC camps to work on maintenance of drainage improvements in organized drainage enterprises in Ohio, Indiana, Kentucky, and Illinois.

On April 10 J.G. Sutton left Washington, D.C. for Louisiana to locate possible sites for CCC camps to work upon the maintenance of drainage improvements in organized drainage enterprises. He then proceeded to Iowa, Missouri, and Illinois where he was engaged in similar work.

A rain of 3.7 inches in 8 days at Houma, La., is reported by B.O. Childs which has increased the interest in drainage studies at that place.

B. S. Clayton reports the dryest six months on record at Belle Glade, Fla. a rain of 2 inches on April 6 being the heaviest since October 3, 1934. The total rainfall for the half-year period since October 3 is only 4.62 inches. The average annual rainfall is nearly 60 inches.

F.E. Staebner recently made a trip to inspect drainage and overflow conditions on some land near Cincinnati, Ohio, in the interest of the Subsistence Homesteads Division of the Department of the Interior. He reported on overflow and drainage conditions on the proposed site for a subsistence homestead in Butler County, Ohio.

Monthly compilations of data on water supply conditions both existent and prospective, for the irrigation States, are being made by P.A. Ewing, based upon contributions from the field employees of the Division of Irrigation and the various State engineers. The consolidated report of April 1 showed some general improvement during March in the Rocky Mountain, Great Basin, and Pacific Slope areas, but areas east of the Rockies still show seasonal deficiencies which may presage another summer of serious shortage.

As Consultant on Water Supply and Conservation for the New Mexico Emergency Relief Administration, Harry F. Blaney spent the first week in March in Santa Fe, where he conferred with representatives of that administration and prepared a preliminary draft of a proposed bulletin on the subject of a water conservation program for New Mexico.

Assistance in installing Parshall measuring flumes was rendered by Carl Rohwer to several ditch companies in Colorado. An unusual amount of interest is being shown in this measuring device at the present time because of the probability that the water supply for irrigation will be very short this season. Mr. Rohwer conducted tests on this type of flume without the diverging outlet section, which indicate that for the free-flow condition there is practically no effect on the discharge when the diverging section is removed. However, there is some doubt whether the modified flume is suitable for any installations except where there is little or no danger of erosion below the structure.

Final report on "Drainage of Land Overlying an Artesian Ground-Water Reservoir," by W.W. McLaughlin and O.W. Israelsen, covering studies carried on for some years past in Cache Valley, Utah, was completed. It is proposed to publish this report as a bulletin of the Utah Agricultural Experiment Station.

A paper entitled "Evaporation Studies in Southern California," prepared by Harry F. Blaney and A.A. Young, was presented at a water conservation conference in Los Angeles on March 13-14, sponsored by the Water Conservation Committee of the Irrigation Division, American Society of Civil Engineers.

Dr. O.V.P. Stout has been placed in charge of a survey to determine the availability of the water supply in connection with proposed irrigation projects in the North Platte Valley, Nebraska. The survey is being conducted by the Bureau of Reclamation, but is supported with P.W.A. funds. The detail is expected to last about three months.

A talk on "Use of Water by Citrus Trees" was given by Karl Harris, before a group of 53 members of the North Central Avenue Branch of the Arizona Citrus Growers. During the coming season Mr. Harris will carry on plot experiments on irrigation of cotton.

In reporting upon the water supply conditions in the North Platte Valley of Nebraska, Leslie Bowen notes the exceptional expense faced this year by irrigation companies and districts in the Great Plains region for cleaning the drifting dust and sand from their canal systems. This is expected to total many thousands of dollars in Nebraska alone. Mr. Bowen addressed the Nebraska Potato Growers Association March 22 on "The Potato and its Uses of Soil Moisture under Irrigation." About 200 growers were present.

At Medina, Ohio, in cooperation with the Ohio Experiment Station, an area of orchard was burned for the control of the apple flea weevil, which hibernates in the trash under the trees. At Augusta, Michigan, in cooperation with the Michigan Experiment Station, an orchard area was burned for the control of apple curculio and apple scab. The equipment used for this orchard burning consisted of a hand-operated generator-type burner 46 inches wide with flame enclosed by a heat-resistant hood. Fuel oil at from 30 to 50 pounds pressure was furnished the burner through a hose line from a small rotary pump driven by a one-half horsepower gasoline engine.

A water-vapor cleaning machine has been received at Toledo for experimental use in spraying peas for the control of pea aphids. This work will be carried on at Madison, Wisc., in cooperation with the Bureau

of Entomology and Plant Quarantine. Mr. Bronson of the Madison office spent several days at Toledo assisting with tests of this apparatus.

Plow attachments developed at Toledo for cleaner coverage of trash are being used by 14 cooperating farmers this spring with very good results. This equipment was used last season in plowing approximately 1,400 acres.

In connection with the fertilizer placement experiments W.R.Humphries and C.W. Brockseker have been applying fertilizers for cotton and tobacco in the Southeastern States. A transplanter of the automatic plant-setting type is used in the tobacco experiments to insure uniform spacing of plants. W.H.Redit is handling the cotton experiments in the Southwestern States. G.A.Cumings during the past two weeks has been planting potatoes on Long Island and in New Jersey. Favorable weather conditions the first part of April, permitted planting of most of the potato acreage in these sections earlier than usual.

A.L. Sharp, who has been connected with the fertilizer machinery project for the past four years has accepted a position with the State Extension Service, at Columbia, Missouri.

A radio talk on "Better Plowing" was prepared and delivered by Thayer Cleaver from the University of Illinois radio station WILL on March 21.

Twelve of the self-angling disk jointers which were developed at the Toledo, Ohio, station have been built at the Urbana, Ill. station and will be used by a few cooperating farmers in Illinois during the spring season. Seven of these disk jointers are already in use.

During March, E.M. Mervine made a trip to Davis, Calif., to confer with S.W. McBirney and Professor Walker on sugar beet machinery development work. En route he visited the sugar beet seed areas near Las Cruces, N. Mexico, and Hemet, Calif. Heretofore, practically all beet seed has been purchased in Europe. This year approximately one-third of the United States' consumption will be raised in these areas. The Bureau has been requested to develop improved methods of threshing beet seed.

Application for a public patent on the push type stalk shaver and windrower developed at Presidio, Texas, has been prepared.

E.D.Gordon and W.M. Hurst are constructing an experimental dryer of the tower type at the Iberia Livestock Farm, Jeanerette, La. The dryer is circular in section with a hollow rotor concentrically placed resembling an enlarged aero-fin section from a radiator. Heat is supplied to the drier by an oil burning furnace, the hot gases from which are forced through the hollow rotor by an exhaust fan. The machine is designed for chopped forage which is kept in suspension by the centrifugal action of the rotor. As the forage drops off the rotating disk, it is guided back to the rotor by a cone-shaped stationary section.

E.M. Dieffenbach has recently submitted to the Washington office an article describing apparatus for an inexpensive cooling bath which can be used in the development of films during hot weather and for other processes where a constant temperature is needed below room temperature and above about 40°.

Wallace Ashby is inspecting the work in storage of potatoes being carried on at Presque Isle, Maine, by A.D. Edgar. While there he will examine a potato storage house recently built in accordance with plans prepared in this Bureau.

No bulletins were issued during the past month.